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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/671,358

09/25/2003

David Callum Johnson

S1011/20159

7092

3000 7590 07/27/2006

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EXAMINER

TORRES, MELANIE

ART UNIT

PAPER NUMBER

3683

DATE MAILED: 07/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/671,358	Applicant(s) JOHNSON, DAVID CALLUM	
	Examiner Melanie Torres	Art Unit 3683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-9 and 15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-9 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/15/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fennell et al. or Purdy et al. in view of Olcott or Johnson (EP 1260729).

Fennell et al. and Purdy et al. teach all the limitations of the claimed invention except wherein the core layer is a C-C composite article impregnated with refractory carbide. Olcott and Johnson teach a C-C composite article impregnated with refractory carbide. It would have been obvious to one of ordinary skill in the art at the time the invention was made to impregnate a C-C wear layer with refractory carbide to improve the adhesion characteristics of wear layers and to provide improved heat sink capabilities for use in making friction materials. (See Olcott, Column 2, lines 45-66)

3. Claims 1, 2, 5-9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krenkel et al (935) or Bauer et al (040) or Domergue et al (475) or Madin (164) in view of GB 2298687 to Fennell et al or Purdy (022) or Dietrich et al (525) and further in view of Olcott and Johnson (EP 1260729).

It would have been obvious at the time the invention was made to select the density of the core to wear layer in each of the principal references to be with the core

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density 1.85 gcm-3 to 2.95 gcm-3 and the wear layer(s) 1.85 gcm-3 or lower as taught by each of the secondary references to reduce weight and costs to compensate for the squeezed profit margins in businesses today by routine trial and error which leads to optimum ranges without sacrificing the brakes ability to operate within acceptable wear frames and weight and heat concerns. It would have been obvious at the time the invention was made to modify the admitted prior art to select the core layer to have a greater density than the wear layer with the specific ranger taught by Fennell et al or Purdy or Dietrich et al in order to reduce costs and it would have been obvious to the artisan in the art to manipulate the ratios of density, lengths, sizes, etc., as taught by the secondary references and, in the alternative, to select the specific ranges through routine trial and error during routine experimentation to select the optimum ranges to arrive at the best and most cost effective solution to promote strength, good wear capabilities, good heat reduction and weight concerns. Further, Olcott and Johnson teach a C-C composite article impregnated with a refractory carbide. It would have been obvious to one of ordinary skill in the art at the time the invention was made to impregnate a C-C wear layer with refractory carbide to improve the adhesion characteristics of wear layers and to provided improved heat sink capabilities for use in making friction materials. (Column 2, lines 45-66)

Response to Arguments

4. Applicant's arguments with respect to claims 1, 2, 5-9 and 15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie Torres whose telephone number is (571)272-7127. The examiner can normally be reached on Monday, 6:00 AM - 4:30 PM, Tuesday, 6:00 - 12:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James McClellan can be reached on (571)272-6786. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MT
July 25, 2006

Melanie Torres
Melanie Torres
Primary Examiner
7-25-06